--35. (New) A method of transmitting digital data stream so as to enable a bit error rate-reduced reception without influencing a peak power in a digital wireless communications system, the method including the steps of:

converting said digital data stream into a first stream of information symbols through an 8-or-more-signal-point modulation scheme;

generating a pilot symbol disposed at a position farther from an origin of a signal constellation defined by said 8-or-more-signal-point modulation scheme than any of possible signal points on said signal constellation;

inserting said pilot symbol regularly in said first stream of said information symbols to generate a second symbol stream without influencing a peak power of a smoothed second symbol stream; and

transmitting a modulated version of said second symbol stream by wireless.

36. (New) A method as defined in claim 35, wherein said step of generating a pilot symbol includes the step of setting said amplitude of said pilot symbol not larger than 1.6 times a maximum possible amplitude of said information symbols.

37. (New) A method as defined in claim 35, wherein said 8-or-more-signal-point modulation scheme is an 8-or-more-signal-point quadrature amplitude modulation.

38. (New) A method as defined in claim 36, wherein said 8-or-more-signal-point modulation scheme is an 8-or-more-signal-point quadrature amplitude modulation.

39. (New) A method as defined in claim 37, wherein said pilot symbol is disposed on either an in-phase axis or a quadrature-phase axis in a symbol constellation.

40. (New) A method as defined in claim 38, wherein said pilot symbol is disposed on either an in-phase axis or a quadrature-phase axis in a symbol constellation.

41. (New) A method as defined in claim 35, wherein said 8-or-more-signal-point modulation scheme is a quadrature phase shift keying.

42. (New) A method as defined in claim 41, wherein said step of generating a pilot symbol includes the step of setting said amplitude of said pilot symbol not larger than 1.6 times a maximum possible amplitude of said information symbols.

43. (New) A method as defined in claim 41, wherein said pilot symbol is disposed on either an in-phase axis or a quadrature-phase axis in said symbol constellation.

44. (New) A method as defined in claim 42, wherein said pilot symbol is disposed on either an in-phase axis or a quadrature-phase axis in said symbol constellation.

45. (New) A transmitter for transmitting digital data stream so as to enable a bit error rate-reduced reception without influencing a peak power in a digital wireless communications system, the transmitter including:

means for converting said digital data stream into a first stream of information symbols through an 8-or-more-signal-point modulation scheme;

means for generating a pilot symbol disposed at a position farther from an origin of a signal constellation defined by said 8-or-more-signal-point modulation scheme than any of possible signal points on said signal constellation;

means for inserting said pilot symbol regularly in said first stream of said information symbols to generate a second symbol stream without influencing a peak power of a smoothed second symbol stream; and

means for transmitting a modulated version of said second symbol stream by wireless.

46. (New) A transmitter as defined in claim 45, wherein said means for generating a pilot symbol includes means for setting said amplitude of said pilot symbol not larger than 1.6 times a maximum possible amplitude of said information symbols.

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47.   (New) A transmitter as defined in claim 45, wherein said 8-or-more-signal-point modulation scheme is an 8-or-more-signal-point quadrature amplitude modulation.

48.   (New) A transmitter as defined in claim 46, wherein said 8-or-more-signal-point modulation scheme is an 8-or-more-signal-point quadrature amplitude modulation.

49.   (New) A transmitter as defined in claim 47, wherein said pilot symbol is disposed on either an in-phase axis or a quadrature-phase axis in a symbol constellation.

50.   (New) A transmitter as defined in claim 48, wherein said pilot symbol is disposed on either an in-phase axis or a quadrature-phase axis in a symbol constellation.

51.   (New) A transmitter as defined in claim 45, wherein said 8-or-more-signal-point modulation scheme is a quadrature phase shift keying.

52.   (New) A transmitter as defined in claim 51, wherein said means for generating a pilot symbol includes means for setting said amplitude of said pilot symbol not larger than 1.6 times a maximum possible amplitude of said information symbols.

53.   (New) A transmitter as defined in claim 51, wherein said pilot symbol is disposed on either an in-phase axis or a quadrature-phase axis in said symbol constellation.

54.   (New) A transmitter as defined in claim 52, wherein said pilot symbol is disposed on either an in-phase axis or a quadrature-phase axis in said symbol constellation.

55.   (New) A device including receiving means for receiving said modulated version of said second symbol stream transmitted in accordance with a method as defined in claim 35, the device including:

     means for obtaining said second symbol stream from said modulated version of said second symbol stream;

means for using a pilot symbol to estimate an amplitude distortion of information symbols between said pilot signal and a next pilot symbol in said second symbol stream;

means for removing said amplitude distortion from said information symbols following said pilot signal in said second symbol stream by using said estimated amplitude distortion to obtain amplitude-distortion-compensated information symbols;

means for deciding a digital symbol associated with each of said obtained amplitude-distortion-compensated information symbols according to said signal constellation.

56.   (New) A device including receiving means for receiving said modulated version of said second symbol stream transmitted in accordance with a method as defined in claim 35, the device including:

means for obtaining said second symbol stream from said modulated version of said second symbol stream;

means for using a pilot symbol to estimate an frequency offset of information symbols between said pilot signal and a next pilot symbol in said second symbol stream;

means for removing said frequency offset from said information symbols between said pilot signal and the next pilot symbol in said second symbol stream by using said estimated frequency offset to obtain frequency-offset -compensated information symbols;

means for deciding a digital symbol associated with each of said obtained frequency-offset-compensated information symbols according to said signal constellation.

57.   (New) A device as defined in claim 55, further including means for using said pilot symbol to estimate a frequency offset of said information symbols between said pilot signal and the next pilot symbol in said second symbol stream, wherein said means for removing said frequency offset comprises:

means for removing said amplitude distortion and said frequency offset from said information symbols between said pilot signal and the next pilot symbol in said second symbol stream by using said estimated amplitude distortion and said estimated frequency

offset to obtain fading-distortion-compensated information symbols, and said means for deciding a digital symbol comprises:

means for deciding a digital symbol associated with each of said obtained fading-distortion-compensated information symbols according to said signal constellation.--